

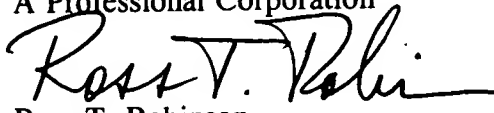
REMARKS

It is respectfully submitted that the amendments made to the claims herein are neither being presented nor made in response to the citation of any prior art known to the Applicant or the Applicant's attorneys. These claim amendments are further not made for any reason related to any statutory requirements for patentability. These claim amendments are made solely to more completely claim that to which the Applicant is entitled. Applicant's invention should only be considered limited by the claims as they now exist and the equivalents thereof. It is not the Applicant's intent to narrow any claim element by the amendments made herein. It is submitted that no new matter has been added. A clean copy of all pending claims after the amendments made herein is attached to this Preliminary Amendment as Exhibit A. A clean copy of all amendments to the specification is attached to this Preliminary Amendment as Exhibit B.

In view of the foregoing, Applicant respectfully requests the thorough and complete examination of this application and earnestly solicits an early notice of allowance.

Respectfully submitted,

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**EXHIBIT A**

Marked-up copy of claims:

1. (AMENDED) [Method for] A method of transporting physical objects comprising:[, wherein] transporting at least one physical object [is transported] from a sending station to a receiving station[,];  
  
wherein the transport occurs through at least one physical router[,];  
  
[wherein the physical router executes] executing a decision about further parameters of transport to at least one of another physical router [or to] and the receiving station[,];  
  
[characterised in that]  
  
generating information for handling and moving the physical object; [is generated and transferred]  
  
transferring the information to a logical node[,];  
  
[wherein] using the information [is used] to handle and move the at least one physical object [packets] according to [a] handling and moving of packets in a telecommunication protocol; and  
  
[wherein the logical node transfers] transferring by the logical node of the decision to at least one of the sending station [and/or] and the at least one physical router.
2. (AMENDED) The method according to claim 1, [characterised in that] wherein the information for handling the at least one physical [objects] object is transmitted in logical packets.

3. (AMENDED) The method according to claim 2, [characterised in that] wherein the information is stored in a header of one logical packet.
4. (AMENDED) The method according to claim 1[any of the precedent claims], [characterised in that] wherein the logical node is assigned to a physical guide.
5. (AMENDED) The method according to claim 1[any of the precedent claims], [characterised in that] wherein at least one routing mechanism is used.
6. (AMENDED) The method according to claim 5, [characterised in that] wherein the routing is performed within a network layer.
7. (AMENDED) The method according to claim 1 [any of the precedent claims], [characterised in that] wherein an Internet Protocol is used.
8. (AMENDED) The method according to claim 1 [any of the precedent claims], [characterised in that] wherein a cell switching technology is used.
9. (AMENDED) The method according to claim 8, [characterised in that] wherein the cell switching is performed in an asynchronous transfer mode.

10. (AMENDED) The method according to claim 1[any of the precedent claims],  
[characterised in that] wherein an Internet Control Message Protocols (ICMP) provides network  
services to [the] a plurality of upper layers.
11. (AMENDED) The method according to claim 1[any of the precedent claims],  
[characterised in that] wherein Internet Protocol Addresses are transferred to data link addresses.
12. (AMENDED) The method according to claim 11, [characterised in that] wherein the  
Internet Protocol Addresses are transferred to the Data Link Addresses according to an Address  
Resolution Protocol.
13. (AMENDED) The method according to claim 1[any of the precedent claims],  
[characterised in that] wherein at least one interior gateway routing protocol is used.
14. (AMENDED) The method according to claim 13, [characterised in that] wherein an open  
shortest path first protocol is used.
15. (AMENDED) The method according to claim 1[any of the precedent claims],  
[characterised in that] wherein a packet-scheduling algorithm is used.

16. (AMENDED) The method according to claim 15, [characterised in that] wherein [the] packet-scheduling is performed with weighted fair queuing.
17. (AMENDED) The method according to claim 1[any of the precedent claims], [characterised in that] wherein at least one virtual private network is used.
18. (AMENDED) The method according to claim 1[any of the precedent claims], [characterised in that] wherein differentiated services are used.
19. (AMENDED) The method according to claim 1[any of the precedent claims], [characterised in that] wherein a communication protocol signals a router to reserve bandwidth for real-time transmission.
20. (AMENDED) The method according to claim 1[any of the precedent claims], [characterised in that] wherein a multiprotocol label switching is used.
21. (AMENDED) The method according to claim 1 [any of the precedent claims], [characterised in that] wherein at least one site creates at least one home agent for a communication with at least one other site.

22. (AMENDED) The method according to claim 1[any of the precedent claims],  
[characterised in that] wherein a transmission control protocol is used.
23. (AMENDED) The method according to claim 1[any of the precedent claims],  
[characterised in that] wherein a control protocol is used.
24. (AMENDED) The method according to claim 1[any of the precedent claims],  
[characterised in that] wherein a real-time protocol is used.
25. (AMENDED) The method according to claim 1[any of the precedent claims],  
[characterised in that] wherein a movement of [the] a logical packet and the at least one physical  
object [is] are synchronised.
26. (AMENDED) [Transportation] A transportation system for [the transport of] transporting  
physical objects comprising[:],  
[wherein the transportation system contains transport] means to transport at least one  
physical object from a sending station to a receiving station[:],  
wherein the transport occurs through at least one physical router[:],  
wherein the physical router executes a decision about further parameters of transport to at  
least one of another physical router [or to] and the receiving station[:], [characterised in that]

wherein information for [fōr] handling and moving the at least one physical object is generated and transferred to a logical node[,];

wherein the information is used to handle and move the at least one physical [packets] object according to [a] handling and moving of packets in a telecommunication protocol; and

wherein the logical node transfers the decision to at least one of the sending station [and/or] and at least one physical router.

27. (AMENDED) [Transportation] A transportation means[, capable of transporting] adapted to transport at least one physical object [from, to or between] between at least two of a sending station, a receiving station [or] and a physical router, [characterised in that] wherein the transportation means executes [a transportation] the transport of the at least one physical object according to parameters [which have been] transmitted according to at least one telecommunication protocol.

28. (AMENDED) [Physical] A physical guide[, capable of executing] adapted to execute a decision about parameters of transport to at least one of another physical router [or to] and a receiving station;[, characterised in that]

wherein a logical node is assigned to the physical router[,];

wherein information is transmitted according to at least one telecommunication protocol;  
and



wherein the logical node takes the decision [and wherein the decision is taken] according to at least one telecommunication protocol.

29. (AMENDED) [Computer program, capable of controlling] A computer program adapted to control a message for transporting physical objects[,];

wherein the transport occurs through at least one physical router[,]

wherein the physical router executes a decision about further parameters of transport[,];  
[characterised in that] wherein the computer program takes the decision according to information for handling the physical object; and

wherein the decision is taken according to at least one telecommunication protocol.

**EXHIBIT B**

**Marked up changes to specification:**

Please amend the paragraph at p. 1, Ins. 15-20 to read as follows:

The invention further relates to a transportation system for the transport of physical objects, wherein the transportation system [contains] includes means for transport of at least one physical object from a sending station to a receiving station, wherein the transportation system [contains] includes at least one physical guide, wherein the physical guide is capable of executing a decision about further parameters of transport to another physical guide or to the receiving station.

Please amend the paragraph at p. 1, Ins. 22-25 to read as follows:

Physical objects are any objects which can have an effect in the physical world. They are most preferably massive bodies of any size, ranging from less than one gram up to several tons. However, other objects, for example a computer program or a data file are also physical objects for purposes of this application [within the invention].

Please delete the text "13. November 2000" from the footer of each page of the application.

Please amend the paragraph at p. 2, lns. 2-7 to read as follows:

Current control mechanisms for the delivery of [package] packages, for example within companies or to customers are very much based on special proprietary solutions. Work is ongoing to standardise the control mechanisms, e.g. logistics and workflow management systems, e.g. the Workflow Management Coalition[,] (WFMC). Several companies are working on dedicated software for package delivery systems.

Please amend the paragraph at p. 3, lns. 13-18 to read as follows:

Due to the enormous growth of the Internet and the number of subscribers, the Internet Protocol (IP) is widely deployed. IP is the network layer protocol for the Internet and [lots of] many other networks. IP, together with several additional protocols [for example], such as, for example, Open Shortest Path First (OSPF) and Internet Control Message Protocols (ICMP), provides [the afterwards described] network services to the upper layers.

Please amend the paragraph at p. 3, lns. 23-27 to read as follows:

The IPv6 standard provides [the afterwards mentioned] additional services. These services include an improved security handling which guarantees authentication and privacy, an enhanced type of service based routing, a flow label routing which is similar to virtual circuits and an unlimited amount of IP addresses including an improved hierarchical addressing scheme.

Please amend the paragraph at p. 3, lns. 29-32 to read as follows:

Furthermore the IPv6 standard provides anycasting. This network service is like multicasting in that a destination is a group of addresses, but instead of trying to deliver the data packet to all of them, it tries to deliver it ot just one, usually the nearest one.

Please amend the paragraph at p. 4, lns. 14-20 to read as follows:

Several major Dutch cities, for example Leiden, Utrecht, Tilburg, Arnhem, Nijmegen, are currently investigating the applicability of such underground distribution networks. An investigation that was concluded in 1998 has indicated that underground distribution networks like OLS[,] (Ondergronds Logistiek Systeems), as they are called in the Netherlands, are very [well] feasible. In Hoofddorp a decision will be made before the next century on whether such a system will be implemented.

Please add the text "Summary of the Invention" at p. 4, ln. 32, just before the last partial paragraph of that page.

Please delete the paragraph at p. 5, lns. 3-6:

Please amend the paragraph at p. 5, lns. 8-17 to read as follows:

[A further] An object of the invention is a method for transporting physical objects, wherein at least one physical object is transported from a sending station to a receiving station, wherein the transport occurs through at least one physical guide, wherein the physical guide

executes a decision about further parameters of transport to another physical guide or to the receiving station, wherein information for handling and moving the physical object is generated and transferred to a logical node, wherein the information is used to handle and move the physical packets according to a handling and moving of packets in a telecommunication protocol and wherein the logical node transfers the decision to the sending station and/or at least one physical router.

Please amend the paragraph at p. 5, lns. 19-22 to read as follows:

It is also possible that there is a close one to one relation between routers (in the logical plane) and machines (in the physical plane) and the routers only send control [info] information down to the machines (i.e. no [info] information is needed from the machine to the router), since the physical packet is anyway accompanied by a logical packet.

Please amend the paragraph at p. 6, lns. 4-11 to read as follows:

Preferably a cell switching technology is used. Asynchronous Transfer Mode (ATM) is an advantageous implementation of a cell switching technology. In ATM the switching may be done on virtual channel identification (VCI) or virtual path (VPI) base. A virtual channel is normally a connection from one source to one destination, although multicast connections are also permitted. Virtual channels are unidirectional, but a pair of circuits can be created at the same time. A group of virtual channels can be grouped together in what is called a virtual path. Conceptually, a virtual path is like a bundle of virtual channels.

Please amend the paragraph at p. 11, lns. 18-23 to read as follows:

Embodiments of [T]the invention [uses the idea, to] provide services which are needed or helpful for package delivery by communication protocols of circuit or packet switched networks. Within advantageous implementations of the invention further specific services will be added. It is even more preferable, to supply also the specific services through communication protocols. The communication protocols are especially packet switched networks e.g. the Internet.

Please insert at p. 11, ln. 24 the text "Brief Description of the Drawings".

Please amend the paragraph at p. 11, lns. 25-26 to read as follows:

In the following embodiments of the invention will be further described by means of examples and by means of the figures:

Please amend the paragraph at p. 12, lns. 6-7 to read as follows:

Fig. [4]5 shows a schematic overview of a preferably global package delivery system.

Please amend the paragraph at p. 12, lns. 18-22 to read as follows:

The examples make use of the idea, that these protocols - when modified - already provide the functionality needed. To achieve an efficient handling of physical objects, especially of packages, different additions may be implemented. Each of them could be combined with each of the transportation systems as described according to the [figures] Figures 1, 2.

Please amend the paragraph at p. 12, lns. 24-25 to read as follows:

The additions are most preferably implemented in a network layer protocol header.

Examples of these additions are described [later on] hereinbelow.

Please amend the paragraph at p. 12, ln. 33 - p. 13, ln. 2 to read as follows:

Basic principles of embodiments of the invention, especially the usage of telecommunication protocols, logical headers and routing mechanisms apply to the transport of every object that can be moved.

Please amend the paragraph at p. 13, lns. 4-5 to read as follows:

The following list provides a non-exhaustive list of logistics options, for example ways to organise the logistics:

Please amend the paragraph at p. 13, lns. 11-14 to read as follows:

Whereas known transportation systems transport goods from small envelopes up to objects as big as containers or even bigger. Embodiments of [T]the invention also allow [allows] transportation of goods which have not yet been considered as a part of a transportation process, especially a transportation chain.

Please amend the paragraph at p. 13, ln. 31 - p. 14, ln. 1 to read as follows:

An advantageous implementation of an embodiment of the invention is described according to Fig. 1. Fig. 1 shows a functional schematic of the transportation system and the transport carried out within the transportation system.

Please amend the paragraph at p. 14, lns. 3-4 to read as follows:

An advantageous implementation of the transportation system and the method of transportation as it is represented in Fig. 1 [contains] includes a physical transport layer 10, a logical transport layer 20 and an application layer 30.

Please amend the paragraph at p. 14, lns. 7-19 to read as follows:

A protocol functionality R is added to the machines M that take care of the physical routing of the packages. The lowest layer 10, most preferable the physical transport plane, can be compared to the physical layer in the well known Open System Interconnection (OSI) model, since it takes care of the physical distribution of the packages. The Open System Interconnection has been proposed by the International Telecommunication Union (ITU) in the recommendation X.200. A middle layer 20, most advantageously the logical transport plane, is the layer that reuses the protocols. The middle layer 20 is the control layer and contains at least similar functions as defined for the OSI layers 2, 3, 4 and 5. The middle layer 20 performs the handling of the logical packets and connections. A top layer, especially an applications plane, contains the applications and can be compared to the OSI layers 6 and 7. The applications are administered by operators on top of Fig. 1. The operators may use web-based graphical user interfaces.



Please amend the paragraph at p. 16, lns. 25-28 to read as follows:

A further implementation of embodiments of the invention relates to a computer integrated manufacturing company. In a computer integrated manufacturing company the routing of construction parts and tools may be done via an Intranet, based on services provided by the Internet protocols.

Please amend the paragraph at p. 19, ln. 33 - p. 20, lns. 1-7 to read as follows:

Existing (subnet) management protocols, such as the Simple Network Management Protocol (SNMP) can be reused for the management of the networks. SNMP messages can be used to configure the routers [(as today)]. New information elements have to be introduced in order to be able to specify the new operations for the package routing. It may also be useful to create an interface from the router to the physical machines in order to relay the configuration messages. This would enable the configuration of the machines via e.g. the Internet and with standardised protocols (such as SNMP).

Please amend the paragraph at p. 21, lns. 10-11 to read as follows:

It is further preferable to monitor the quality of service through a suitable protocol as for example Real-Time Protocol [(RTCP)] (RTP).

Please amend the paragraph at p. 21, lns. 25-33 to read as follows:

In Fig. [3] 5 a package delivery system with suitable logistics via a Wide Area Network, such as a packet switched network as for example the Internet is presented. The packages may be transported by using any transport means between different locations. The addressing of the location may be done by means of IP addresses. Intermediate storage can be done by means of ICMP, flow control or a mechanism that only forwards the logical and the physical package after a confirmation from any machine or human interface, for example one of the operators may use a web-based interface to control the routing of the package or to do alarm handling.

Please amend the paragraph at p. 23, lns. 22-23 to read as follows:

In the following, embodiments of the invention will be described by different concepts with different connections between actual machines and routing network.

Please amend the paragraph at p. 25, lns. 7-8 to read as follows:

A further example relates to global transport system. In this example packages are delivered from location L1 to location L5 according to Fig. [3]5.

Please amend the paragraph at p. 28, lns. 14-19 to read as follows:

Note that the interface between the different locations (L1..L5) and the Internet may also be done with a laptop connected to a GSM mobile station and an Internet dial up connection. It is also possible use a WAP phone or a UMTS phone in the future. This means that it is not necessary to have physical locations that interrogate the routers in the Internet for further

information. The truck driver could [e.g.], for example, fetch this information at arrival in the harbour.

Please amend the paragraph at p. 30, lns. 25-27 to read as follows:

[The invention has] Embodiments of the invention have a wide scope, which includes a reuse of existing packet and circuit switching communication protocols, for example the different routing metrics.

Please amend the paragraph at p. 30, lns. 29-31 to read as follows:

Though embodiments of the invention [is] are carried out with new computer programs, respectively a new computer program product, a major part of the needed software is standardised and widely deployed. This allows interoperability.

Please amend the paragraph at p. 30, ln. 33 - p. 31, ln. 1 to read as follows:

[The] Embodiments of the invention further include [includes] the possibility to use a worldwide packet switched network such as the Internet for physical distribution of packages.

Please amend the paragraph at p. 31, lns. 3-4 to read as follows:

[The] Embodiments of the invention further allow [allows] a reuse of company backbone networks and easier integration with management systems.

Please amend the paragraph at p. 31, lns. 9-12 to read as follows:

An important difference between embodiments of the invention and the state of the art is the fact that the routing machine gets its control (e.g., routing information) from a “logical” router. The control information may be retrieved by accompanying the physical package with a logical packet.

Please delete the paragraphs at p. 36, lns. 3-7, the paragraph at p. 36, lns 9-13, and the paragraph at p. 36, ln. 15.

Please add the following paragraph at p. 36:

A method for transporting physical objects employs at least one physical router. At least one physical object is transported from a sending station to a receiving station. The at least one physical router executes a decision about further parameters of transport to another physical router or to the receiving station. Information for handling and moving the physical object is generated and transferred to a logical node, wherein the information is used to handle and move the physical packets according to a handling and moving of packets in a telecommunication protocol and wherein the logical node transfers the decision to at least one of the sending station and at least one physical router.